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<130> 514413-3900

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cgaatttctc gacgcttctt cgctaatttc ctcgttactt cactagaaat cgacgtttct  180

agctgaactt gagtgaatta agccagtggg aggat atg agt aat tcc tta ggg      233
                                       Met Ser Asn Ser Leu Gly
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aat aac ttg ctg tac cag gga ttc cta acc tca aca gtg ttg gaa cat    281
Asn Asn Leu Leu Tyr Gln Gly Phe Leu Thr Ser Thr Val Leu Glu His
            10                  15                  20

aaa agt aga atc agt cct cct tgt gtt gga ggc aat tct ttg ttt caa    329
Lys Ser Arg Ile Ser Pro Pro Cys Val Gly Gly Asn Ser Leu Phe Gln
        25                  30                  35

caa caa gtg atc tcg aaa tca cct tta tca act gag ttt cga ggt aac    377
Gln Gln Val Ile Ser Lys Ser Pro Leu Ser Thr Glu Phe Arg Gly Asn
    40                  45                  50

agg tta aag gtg cag aaa aag aaa ata cct atg gga aag aac cgt gct    425
Arg Leu Lys Val Gln Lys Lys Lys Ile Pro Met Gly Lys Asn Arg Ala
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ttt tct agt tct cct cat gct gta ctt acc act gat acc tct tct gag 473
Phe Ser Ser Ser Pro His Ala Val Leu Thr Thr Asp Thr Ser Ser Glu
                75   80   85

cta gca gaa aag ttc agt cta gaa ggg aat att gag cta cag gtt gat 521
Leu Ala Glu Lys Phe Ser Leu Glu Gly Asn Ile Glu Leu Gln Val Asp
            90   95   100

gtt agg cct ccc act tca ggt gat gtg tcc ttt gtg gat ttt caa gct 569
Val Arg Pro Pro Thr Ser Gly Asp Val Ser Phe Val Asp Phe Gln Ala
        105   110   115

aca aat ggt agt gat aaa ctg ttt ttg cac tgg ggg gca gta aag ttc 617
Thr Asn Gly Ser Asp Lys Leu Phe Leu His Trp Gly Ala Val Lys Phe
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gga aaa gaa aca tgg tct ctt cct aat gat cgt cca gat ggg acc aaa 665
Gly Lys Glu Thr Trp Ser Leu Pro Asn Asp Arg Pro Asp Gly Thr Lys
135   140   145   150

gtg tac aag aac aaa gca ctt aga act cca ttt gtt aaa tct ggc tct 713
Val Tyr Lys Asn Lys Ala Leu Arg Thr Pro Phe Val Lys Ser Gly Ser
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aac tcc atc ctg aga ctg gag ata cgg gac act gct atc gaa gct att 761
Asn Ser Ile Leu Arg Leu Glu Ile Arg Asp Thr Ala Ile Glu Ala Ile
            170   175   180

gag ttt ctc ata tac gat gaa gcc tac gat aaa tgg ata aag aat aat 809
Glu Phe Leu Ile Tyr Asp Glu Ala Tyr Asp Lys Trp Ile Lys Asn Asn
        185   190   195

ggt ggc aat ttt cgt gtc aaa ttg tca aga aaa gag ata cga ggc cca 857
Gly Gly Asn Phe Arg Val Lys Leu Ser Arg Lys Glu Ile Arg Gly Pro
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gat gtt tca gtt cct gag gag ctt gta cag atc caa tca tat ttg agg 905
Asp Val Ser Val Pro Glu Glu Leu Val Gln Ile Gln Ser Tyr Leu Arg
215   220   225   230

tgg gag agg aag gga aaa cag aat tac acc cct gag aaa gag aag gag 953
Trp Glu Arg Lys Gly Lys Gln Asn Tyr Thr Pro Glu Lys Glu Lys Glu
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gaa tat gag gct gct cga act gag cta cag gag gaa ata gct cgt ggt 1001
Glu Tyr Glu Ala Ala Arg Thr Glu Leu Gln Glu Glu Ile Ala Arg Gly
            250   255   260

gct tcc ata cag gac att cga gca agg cta aca aaa act aat gat aaa 1049
Ala Ser Ile Gln Asp Ile Arg Ala Arg Leu Thr Lys Thr Asn Asp Lys
        265   270   275

agt caa agc aaa gaa gag cct ctt cat gta aca aag agt gaa ata cct 1097
Ser Gln Ser Lys Glu Glu Pro Leu His Val Thr Lys Ser Glu Ile Pro
    280   285   290

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Asp Asp Leu Ala Gln Ala Gln Ala Tyr Ile Arg Trp Glu Lys Ala Gly
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aag ccg aac tat cct cca gaa aag caa att gaa gaa ctc gaa gaa gca     1193
Lys Pro Asn Tyr Pro Pro Glu Lys Gln Ile Glu Glu Leu Glu Glu Ala
                315             320             325


aga aga gaa ttg caa ctt gag ctt gag aaa ggc att acc ctt gat gag     1241
Arg Arg Glu Leu Gln Leu Glu Leu Glu Lys Gly Ile Thr Leu Asp Glu
                330             335             340


ttg cgg aaa aag att aca aaa ggg gag ata aaa act aag gcg gaa aag     1289
Leu Arg Lys Lys Ile Thr Lys Gly Glu Ile Lys Thr Lys Ala Glu Lys
            345             350             355


cac gtg aaa aga agc tct ttt gcc gtt gaa aga atc caa aga aag aag     1337
His Val Lys Arg Ser Ser Phe Ala Val Glu Arg Ile Gln Arg Lys Lys
    360             365             370


aga gac ttt ggg cag ctt att aat aag tat cct tcc agt cct gca gta     1385
Arg Asp Phe Gly Gln Leu Ile Asn Lys Tyr Pro Ser Ser Pro Ala Val
375             380             385                 390


caa gta caa aag gtc ttg gaa gaa cca cca gcc tta tct aaa att aag     1433
Gln Val Gln Lys Val Leu Glu Glu Pro Pro Ala Leu Ser Lys Ile Lys
                395             400             405


ctg tat gcc aag gag aag gag gag cag att gat gat ccg atc ctt aat     1481
Leu Tyr Ala Lys Glu Lys Glu Glu Gln Ile Asp Asp Pro Ile Leu Asn
            410             415             420


aaa aag atc ttt aag gtc gat gat ggg gag cta ctg gta ctg gta gca     1529
Lys Lys Ile Phe Lys Val Asp Asp Gly Glu Leu Leu Val Leu Val Ala
            425             430             435


aag tcc tct ggg aag aca aaa gta cat ata gct aca gat ctg aat cag     1577
Lys Ser Ser Gly Lys Thr Lys Val His Ile Ala Thr Asp Leu Asn Gln
    440             445             450


cca att act ctt cac tgg gca tta tcc aaa agt cgt gga gag tgg atg     1625
Pro Ile Thr Leu His Trp Ala Leu Ser Lys Ser Arg Gly Glu Trp Met
455             460             465                 470


gta cca cct tca agc ata ttg cct cct gga tca att att tta gac aag     1673
Val Pro Pro Ser Ser Ile Leu Pro Pro Gly Ser Ile Ile Leu Asp Lys
                475             480             485


gct gcc gaa aca cct ttt tcc gcc agt tct tct gat ggt cta act tct     1721
Ala Ala Glu Thr Pro Phe Ser Ala Ser Ser Ser Asp Gly Leu Thr Ser
                490             495             500


aag gta caa tct ttg gat ata gta att gaa gat ggc aat ttt gtg ggg     1769
Lys Val Gln Ser Leu Asp Ile Val Ile Glu Asp Gly Asn Phe Val Gly
            505             510             515
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atg cca ttt gtt ctt ttg tct ggt gaa aaa tgg att aag aac caa ggg    1817
Met Pro Phe Val Leu Leu Ser Gly Glu Lys Trp Ile Lys Asn Gln Gly
    520                 525                 530

tcg gat ttc tat gtt gac ttc agt gct gca tcc aaa tta gca ctc aag    1865
Ser Asp Phe Tyr Val Asp Phe Ser Ala Ala Ser Lys Leu Ala Leu Lys
535                 540                 545                 550


gct gct ggg gat ggc agt gga act gca aag tct tta ctg gat aaa ata    1913
Ala Ala Gly Asp Gly Ser Gly Thr Ala Lys Ser Leu Leu Asp Lys Ile
                555                 560                 565

gca gat atg gaa agt gag gct cag aag tca ttt atg cac cgg ttt aat    1961
Ala Asp Met Glu Ser Glu Ala Gln Lys Ser Phe Met His Arg Phe Asn
            570                 575                 580

att gct gct gac ttg ata gaa gat gcc act agt gct ggt gaa ctt ggt    2009
Ile Ala Ala Asp Leu Ile Glu Asp Ala Thr Ser Ala Gly Glu Leu Gly
            585                 590                 595

ttt act gga att ctt gta tgg atg agg ttc atg gct aca agg caa ctg    2057
Phe Thr Gly Ile Leu Val Trp Met Arg Phe Met Ala Thr Arg Gln Leu
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ata tgg aac aaa aac tat aac gta aaa cca cgt gaa ata agc aag gct    2105
Ile Trp Asn Lys Asn Tyr Asn Val Lys Pro Arg Glu Ile Ser Lys Ala
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Gln Asp Arg Leu Thr Asp Leu Leu Gln Asn Ala Phe Thr Ser His Pro
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caa tac cgt gaa att ttg cgg atg att atg tca act gtt gga cgt gga    2201
Gln Tyr Arg Glu Ile Leu Arg Met Ile Met Ser Thr Val Gly Arg Gly
                650                 655                 660

ggt gaa ggg gat gta gga cag cga att agg gat gaa att ttg gtc atc    2249
Gly Glu Gly Asp Val Gly Gln Arg Ile Arg Asp Glu Ile Leu Val Ile
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cag agg aaa aat gac tgc aag ggt ggt atg atg gaa gaa tgg cat cag    2297
Gln Arg Lys Asn Asp Cys Lys Gly Gly Met Met Glu Glu Trp His Gln
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aaa ttg cat aat aat act agt cct gat gat gtt gtg atc tgt cag gca    2345
Lys Leu His Asn Asn Thr Ser Pro Asp Asp Val Val Ile Cys Gln Ala
695                 700                 705                 710

ttg att gac tac atc aag agt gat ttt gat ctt ggt gtt tat tgg aaa    2393
Leu Ile Asp Tyr Ile Lys Ser Asp Phe Asp Leu Gly Val Tyr Trp Lys
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acc ctg aat gag aac gga ata aca aaa gag cgt ctt ttg agt tat gac    2441
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ctt ttg cgt gat tta ggt cac tat atg aga aca ttg aag gct gtt cat      2537
Leu Leu Arg Asp Leu Gly His Tyr Met Arg Thr Leu Lys Ala Val His
    760             765             770

tca ggt gca gat ctt gag tct gct att gca aac tgc atg ggc tac aaa      2585
Ser Gly Ala Asp Leu Glu Ser Ala Ile Ala Asn Cys Met Gly Tyr Lys
775             780             785             790

act gag gga gaa ggc ttt atg gtt gga gtc cag ata aat cct gta tca      2633
Thr Glu Gly Glu Gly Phe Met Val Gly Val Gln Ile Asn Pro Val Ser
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ggc ttg cca tct ggc ttt cag ggc ctc ctc cat ttt gtc tta gac cat      2681
Gly Leu Pro Ser Gly Phe Gln Gly Leu Leu His Phe Val Leu Asp His
            810             815             820

gtg gaa gat aaa aat gtg gaa act ctt ctt gag gga ttg cta gag gct      2729
Val Glu Asp Lys Asn Val Glu Thr Leu Leu Glu Gly Leu Leu Glu Ala
            825             830             835

cgt gag gag ctt agg ccc ttg ctt ctc aaa cca aac aac cgt cta aag      2777
Arg Glu Glu Leu Arg Pro Leu Leu Leu Lys Pro Asn Asn Arg Leu Lys
    840             845             850

gat ctg ctg ttt ttg gac ata gca ctt gat tct aca gtt aga aca gca      2825
Asp Leu Leu Phe Leu Asp Ile Ala Leu Asp Ser Thr Val Arg Thr Ala
855             860             865             870

gta gaa agg gga tat gaa gaa ttg aac aac gct aat cct gag aaa atc      2873
Val Glu Arg Gly Tyr Glu Glu Leu Asn Asn Ala Asn Pro Glu Lys Ile
            875             880             885

atg tac ttc atc tcc ctc gtt ctt gaa aat ctc gca ctc tct gtg gac      2921
Met Tyr Phe Ile Ser Leu Val Leu Glu Asn Leu Ala Leu Ser Val Asp
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gat aat gaa gat ctt gtt tat tgc ttg aag gga tgg aat caa gct ctt      2969
Asp Asn Glu Asp Leu Val Tyr Cys Leu Lys Gly Trp Asn Gln Ala Leu
        905             910             915

tca atg tcc aat ggt gga gac aac cat tgg gct tta ttt gca aaa gct      3017
Ser Met Ser Asn Gly Gly Asp Asn His Trp Ala Leu Phe Ala Lys Ala
        920             925             930

gta ctt gac aga atc cgt ctt gca ctt gca agc aag gca gag tgg tac      3065
Val Leu Asp Arg Ile Arg Leu Ala Leu Ala Ser Lys Ala Glu Trp Tyr
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cat cac tta ttg cag cca tct gcc gaa tat cta gga tca atc ctt ggg      3113
His His Leu Leu Gln Pro Ser Ala Glu Tyr Leu Gly Ser Ile Leu Gly
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Val Asp Gln Trp Ala Leu Asn Ile Phe Thr Glu Glu Ile Ile Arg Ala
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gga tca gca gct tca tta tcc tct ctt ctt aat aga ctc gat ccc gtg        3209
Gly Ser Ala Ala Ser Leu Ser Ser Leu Leu Asn Arg Leu Asp Pro Val
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ctt cgg aaa act gca aat cta gga agt tgg cag att atc agt cca gtt        3257
Leu Arg Lys Thr Ala Asn Leu Gly Ser Trp Gln Ile Ile Ser Pro Val
       1000                1005                1010

gaa gcc gtt gga tat gtt gtc gtt gtg gat gag ttg ctt tca gtt cag        3305
Glu Ala Val Gly Tyr Val Val Val Val Asp Glu Leu Leu Ser Val Gln
1015                1020                1025                1030


aat gaa atc tac aag aag ccc acg atc tta gta gca aac tct gtt aaa        3353
Asn Glu Ile Tyr Lys Lys Pro Thr Ile Leu Val Ala Asn Ser Val Lys
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gga gag gag gaa att cct gat ggt gct gtt gcc ctg ata aca cca gac        3401
Gly Glu Glu Glu Ile Pro Asp Gly Ala Val Ala Leu Ile Thr Pro Asp
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atg cca gat gtt ctt tca cat gtt tct gtt cga gct aga aat ggg aag        3449
Met Pro Asp Val Leu Ser His Val Ser Val Arg Ala Arg Asn Gly Lys
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gtt tgc ttt gct aca tgc ttt gat ccc aat ata ttg gct gac ctc caa        3497
Val Cys Phe Ala Thr Cys Phe Asp Pro Asn Ile Leu Ala Asp Leu Gln
       1080                1085                1090

gca aag gaa gga agg att ttg ctc tta aag cct aca cct tca gac ata        3545
Ala Lys Glu Gly Arg Ile Leu Leu Leu Lys Pro Thr Pro Ser Asp Ile
1095                1100                1105                1110

atc tat agt gag gtg aat gag att gag ctc caa agt tca agt aac ttg        3593
Ile Tyr Ser Glu Val Asn Glu Ile Glu Leu Gln Ser Ser Ser Asn Leu
            1115                1120                1125

gta gaa gct gaa act tca gca aca ctt aga ttg gtg aaa aag caa ttt        3641
Val Glu Ala Glu Thr Ser Ala Thr Leu Arg Leu Val Lys Lys Gln Phe
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ggt ggt tgt tac gca ata tca gca gat gaa ttc aca agt gaa atg gtt        3689
Gly Gly Cys Tyr Ala Ile Ser Ala Asp Glu Phe Thr Ser Glu Met Val
            1145                1150                1155

gga gct aaa tca cgt aat att gca tat ctg aaa gga aaa gtg cct tcc        3737
Gly Ala Lys Ser Arg Asn Ile Ala Tyr Leu Lys Gly Lys Val Pro Ser
       1160                1165                1170

tcg gtg gga att cct acg tca gta gct ctt cca ttt gga gtc ttt gag        3785
Ser Val Gly Ile Pro Thr Ser Val Ala Leu Pro Phe Gly Val Phe Glu
1175                1180                1185                1190
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aaa gta ctt tca gac gac ata aat cag gga gtg gca aaa gag ttg caa     3833
Lys Val Leu Ser Asp Asp Ile Asn Gln Gly Val Ala Lys Glu Leu Gln
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att ctg acg aaa aaa cta tct gaa gga gac ttc agc gct ctt ggt gaa     3881
Ile Leu Thr Lys Lys Leu Ser Glu Gly Asp Phe Ser Ala Leu Gly Glu
                1210                1215                1220

att cgc aca acg att tta gat ctt tca gca cca gct caa ttg gtc aaa     3929
Ile Arg Thr Thr Ile Leu Asp Leu Ser Ala Pro Ala Gln Leu Val Lys
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gag ctg aag gaa aag atg cag ggt tct ggc atg cct tgg cct ggt gat     3977
Glu Leu Lys Glu Lys Met Gln Gly Ser Gly Met Pro Trp Pro Gly Asp
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gaa ggt cca aag cgg tgg gaa caa gca tgg atg gcc ata aaa aag gtg     4025
Glu Gly Pro Lys Arg Trp Glu Gln Ala Trp Met Ala Ile Lys Lys Val
1255                1260                1265                1270


tgg gct tca aaa tgg aat gag aga gca tac ttc agc aca agg aag gtg     4073
Trp Ala Ser Lys Trp Asn Glu Arg Ala Tyr Phe Ser Thr Arg Lys Val
                1275                1280                1285

aaa ctg gat cat gac tat ctg tgc atg gct gtc ctt gtt caa gaa ata     4121
Lys Leu Asp His Asp Tyr Leu Cys Met Ala Val Leu Val Gln Glu Ile
                1290                1295                1300

ata aat gct gat tat gca ttt gtc att cac aca acc aac cca tct tcc     4169
Ile Asn Ala Asp Tyr Ala Phe Val Ile His Thr Thr Asn Pro Ser Ser
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gga gac gac tca gaa ata tat gcc gag gtg gtc agg ggc ctt ggg gaa     4217
Gly Asp Asp Ser Glu Ile Tyr Ala Glu Val Val Arg Gly Leu Gly Glu
            1320                1325                1330

aca ctt gtt gga gct tac cca gga cgt gct ttg agt ttt atc tgc aag     4265
Thr Leu Val Gly Ala Tyr Pro Gly Arg Ala Leu Ser Phe Ile Cys Lys
1335                1340                1345                1350

aaa aag gat ctc aac tct cct caa gtg tta ggt tac cca agc aaa ccg     4313
Lys Lys Asp Leu Asn Ser Pro Gln Val Leu Gly Tyr Pro Ser Lys Pro
                1355                1360                1365

atc ggc ctt ttc ata aaa aga tct atc atc ttc cga tct gat tcc aat     4361
Ile Gly Leu Phe Ile Lys Arg Ser Ile Ile Phe Arg Ser Asp Ser Asn
                1370                1375                1380

ggg gaa gat ttg gaa ggt tat gcc ggt gct ggc ctc tac gac agt gta     4409
Gly Glu Asp Leu Glu Gly Tyr Ala Gly Ala Gly Leu Tyr Asp Ser Val
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cca atg gat gag gag gaa aaa gtt gta att gat tac tct tcc gac cca     4457
Pro Met Asp Glu Glu Glu Lys Val Val Ile Asp Tyr Ser Ser Asp Pro
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1415            1420            1425            1430

cgt gct gga cat gct atc gag gag cta tat ggc tct cct caa gac atc     4553
Arg Ala Gly His Ala Ile Glu Glu Leu Tyr Gly Ser Pro Gln Asp Ile
            1435            1440            1445

gag ggt gta gtg agg gat gga aag att tat gtc gtt cag aca aga cct     4601
Glu Gly Val Val Arg Asp Gly Lys Ile Tyr Val Val Gln Thr Arg Pro
            1450            1455            1460

cag atg tgatcatatt ctcgttgtat gttgttcaga gaagaccata gatgtgatca     4657
Gln Met

tattctcatg gtatcagatc tgtgaccact tacctcccat gaagttgcct gtatgattat 4717

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tgccgcggcc gcgaattcct gcagcccggg ggatccacta gttctagagc ggccgccacc 5017

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Gly Asn Ser Leu Phe Gln Gln Gln Val Ile Ser Lys Ser Pro Leu Ser
            35                  40                  45

Thr Glu Phe Arg Gly Asn Arg Leu Lys Val Gln Lys Lys Lys Ile Pro
    50                  55                  60

Met Gly Lys Asn Arg Ala Phe Ser Ser Ser Pro His Ala Val Leu Thr
 65                  70                  75                  80

Thr Asp Thr Ser Ser Glu Leu Ala Glu Lys Phe Ser Leu Glu Gly Asn
                85                  90                  95

Ile Glu Leu Gln Val Asp Val Arg Pro Pro Thr Ser Gly Asp Val Ser
            100                 105                 110
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Phe Val Asp Phe Gln Ala Thr Asn Gly Ser Asp Lys Leu Phe Leu His
115   120   125

Trp Gly Ala Val Lys Phe Gly Lys Glu Thr Trp Ser Leu Pro Asn Asp
130   135   140

Arg Pro Asp Gly Thr Lys Val Tyr Lys Asn Lys Ala Leu Arg Thr Pro
145   150   155   160

Phe Val Lys Ser Gly Ser Asn Ser Ile Leu Arg Leu Glu Ile Arg Asp
165   170   175

Thr Ala Ile Glu Ala Ile Glu Phe Leu Ile Tyr Asp Glu Ala Tyr Asp
180   185   190

Lys Trp Ile Lys Asn Asn Gly Gly Asn Phe Arg Val Lys Leu Ser Arg
195   200   205

Lys Glu Ile Arg Gly Pro Asp Val Ser Val Pro Glu Glu Leu Val Gln
210   215   220

Ile Gln Ser Tyr Leu Arg Trp Glu Arg Lys Gly Lys Gln Asn Tyr Thr
225   230   235   240

Pro Glu Lys Glu Lys Glu Glu Tyr Glu Ala Ala Arg Thr Glu Leu Gln
245   250   255

Glu Glu Ile Ala Arg Gly Ala Ser Ile Gln Asp Ile Arg Ala Arg Leu
260   265   270

Thr Lys Thr Asn Asp Lys Ser Gln Ser Lys Glu Glu Pro Leu His Val
275   280   285

Thr Lys Ser Glu Ile Pro Asp Asp Leu Ala Gln Ala Gln Ala Tyr Ile
290   295   300

Arg Trp Glu Lys Ala Gly Lys Pro Asn Tyr Pro Pro Glu Lys Gln Ile
305   310   315   320

Glu Glu Leu Glu Glu Ala Arg Arg Glu Leu Gln Leu Glu Leu Glu Lys
325   330   335

Gly Ile Thr Leu Asp Glu Leu Arg Lys Ile Thr Lys Gly Glu Ile
340   345   350

Lys Thr Lys Ala Glu Lys His Val Lys Arg Ser Ser Phe Ala Val Glu
355   360   365

Arg Ile Gln Arg Lys Lys Arg Asp Phe Gly Gln Leu Ile Asn Lys Tyr
370   375   380

Pro Ser Ser Pro Ala Val Gln Val Gln Lys Val Leu Glu Glu Pro Pro
385   390   395   400

Ala Leu Ser Lys Ile Lys Leu Tyr Ala Lys Glu Lys Glu Glu Gln Ile

Asp Asp Pro Ile Leu Asn Lys Lys Ile Phe Lys Val Asp Asp Gly Glu
       420   425   430

Leu Leu Val Leu Val Ala Lys Ser Ser Gly Lys Thr Lys Val His Ile
       435   440   445

Ala Thr Asp Leu Asn Gln Pro Ile Thr Leu His Trp Ala Leu Ser Lys
       450   455   460

Ser Arg Gly Glu Trp Met Val Pro Pro Ser Ser Ile Leu Pro Pro Gly
465   470   475   480

Ser Ile Ile Leu Asp Lys Ala Ala Glu Thr Pro Phe Ser Ala Ser Ser
       485   490   495

Ser Asp Gly Leu Thr Ser Lys Val Gln Ser Leu Asp Ile Val Ile Glu
       500   505   510

Asp Gly Asn Phe Val Gly Met Pro Phe Val Leu Leu Ser Gly Glu Lys
       515   520   525

Trp Ile Lys Asn Gln Gly Ser Asp Phe Tyr Val Asp Phe Ser Ala Ala
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Ser Lys Leu Ala Leu Lys Ala Ala Gly Asp Gly Ser Gly Thr Ala Lys
545   550   555   560

Ser Leu Leu Asp Lys Ile Ala Asp Met Glu Ser Glu Ala Gln Lys Ser
       565   570   575

Phe Met His Arg Phe Asn Ile Ala Ala Asp Leu Ile Glu Asp Ala Thr
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Ser Ala Gly Glu Leu Gly Phe Thr Gly Ile Leu Val Trp Met Arg Phe
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Met Ala Thr Arg Gln Leu Ile Trp Asn Lys Asn Tyr Asn Val Lys Pro
       610   615   620

Arg Glu Ile Ser Lys Ala Gln Asp Arg Leu Thr Asp Leu Leu Gln Asn
625   630   635   640

Ala Phe Thr Ser His Pro Gln Tyr Arg Glu Ile Leu Arg Met Ile Met
       645   650   655

Ser Thr Val Gly Arg Gly Gly Glu Gly Asp Val Gly Gln Arg Ile Arg
       660   665   670

Asp Glu Ile Leu Val Ile Gln Arg Lys Asn Asp Cys Lys Gly Gly Met
       675   680   685

Met Glu Glu Trp His Gln Lys Leu His Asn Asn Thr Ser Pro Asp Asp
       690   695   700

Val Val Ile Cys Gln Ala Leu Ile Asp Tyr Ile Lys Ser Asp Phe Asp
705   710   715   720

Leu Gly Val Tyr Trp Lys Thr Leu Asn Glu Asn Gly Ile Thr Lys Glu
                725   730   735

Arg Leu Leu Ser Tyr Asp Arg Ala Ile His Ser Glu Pro Asn Phe Arg
            740   745   750

Gly Asp Gln Lys Asn Gly Leu Leu Arg Asp Leu Gly His Tyr Met Arg
            755   760   765

Thr Leu Lys Ala Val His Ser Gly Ala Asp Leu Glu Ser Ala Ile Ala
        770   775   780

Asn Cys Met Gly Tyr Lys Thr Glu Gly Glu Gly Phe Met Val Gly Val
785   790   795   800

Gln Ile Asn Pro Val Ser Gly Leu Pro Ser Gly Phe Gln Gly Leu Leu
            805   810   815

His Phe Val Leu Asp His Val Glu Asp Lys Asn Val Glu Thr Leu Leu
            820   825   830

Glu Gly Leu Leu Glu Ala Arg Glu Glu Leu Arg Pro Leu Leu Leu Lys
        835   840   845

Pro Asn Asn Arg Leu Lys Asp Leu Leu Phe Leu Asp Ile Ala Leu Asp
        850   855   860

Ser Thr Val Arg Thr Ala Val Glu Arg Gly Tyr Glu Glu Leu Asn Asn
865   870   875   880

Ala Asn Pro Glu Lys Ile Met Tyr Phe Ile Ser Leu Val Leu Glu Asn
            885   890   895

Leu Ala Leu Ser Val Asp Asp Asn Glu Asp Leu Val Tyr Cys Leu Lys
            900   905   910

Gly Trp Asn Gln Ala Leu Ser Met Ser Asn Gly Gly Asp Asn His Trp
        915   920   925

Ala Leu Phe Ala Lys Ala Val Leu Asp Arg Ile Arg Leu Ala Leu Ala
        930   935   940

Ser Lys Ala Glu Trp Tyr His His Leu Leu Gln Pro Ser Ala Glu Tyr
945   950   955   960

Leu Gly Ser Ile Leu Gly Val Asp Gln Trp Ala Leu Asn Ile Phe Thr
                965   970   975

Glu Glu Ile Ile Arg Ala Gly Ser Ala Ala Ser Leu Ser Ser Leu Leu
            980   985   990

Asn Arg Leu Asp Pro Val Leu Arg Lys Thr Ala Asn Leu Gly Ser Trp
        995   1000   1005

Gln Ile Ile Ser Pro Val Glu Ala Val Gly Tyr Val Val Val Val Asp
    1010   1015   1020

Glu Leu Leu Ser Val Gln Asn Glu Ile Tyr Lys Lys Pro Thr Ile Leu
1025   1030   1035   1040

Val Ala Asn Ser Val Lys Gly Glu Glu Glu Ile Pro Asp Gly Ala Val
            1045   1050   1055

Ala Leu Ile Thr Pro Asp Met Pro Asp Val Leu Ser His Val Ser Val
            1060   1065   1070

Arg Ala Arg Asn Gly Lys Val Cys Phe Ala Thr Cys Phe Asp Pro Asn
        1075   1080   1085

Ile Leu Ala Asp Leu Gln Ala Lys Glu Gly Arg Ile Leu Leu Leu Lys
    1090   1095   1100

Pro Thr Pro Ser Asp Ile Ile Tyr Ser Glu Val Asn Glu Ile Glu Leu
1105   1110   1115   1120

Gln Ser Ser Ser Asn Leu Val Glu Ala Glu Thr Ser Ala Thr Leu Arg
            1125   1130   1135

Leu Val Lys Lys Gln Phe Gly Gly Cys Tyr Ala Ile Ser Ala Asp Glu
        1140   1145   1150

Phe Thr Ser Glu Met Val Gly Ala Lys Ser Arg Asn Ile Ala Tyr Leu
        1155   1160   1165

Lys Gly Lys Val Pro Ser Ser Val Gly Ile Pro Thr Ser Val Ala Leu
    1170   1175   1180

Pro Phe Gly Val Phe Glu Lys Val Leu Ser Asp Asp Ile Asn Gln Gly
1185   1190   1195   1200

Val Ala Lys Glu Leu Gln Ile Leu Thr Lys Lys Leu Ser Glu Gly Asp
            1205   1210   1215

Phe Ser Ala Leu Gly Glu Ile Arg Thr Thr Ile Leu Asp Leu Ser Ala
        1220   1225   1230

Pro Ala Gln Leu Val Lys Glu Leu Lys Glu Lys Met Gln Gly Ser Gly
        1235   1240   1245

Met Pro Trp Pro Gly Asp Glu Gly Pro Lys Arg Trp Glu Gln Ala Trp
    1250   1255   1260

Met Ala Ile Lys Lys Val Trp Ala Ser Lys Trp Asn Glu Arg Ala Tyr
1265   1270   1275   1280

Phe Ser Thr Arg Lys Val Lys Leu Asp His Asp Tyr Leu Cys Met Ala
        1285   1290   1295

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Val Leu Val Gln Glu Ile Ile Asn Ala Asp Tyr Ala Phe Val Ile His
        1300                1305                1310

Thr Thr Asn Pro Ser Ser Gly Asp Asp Ser Glu Ile Tyr Ala Glu Val
        1315                1320                1325

Val Arg Gly Leu Gly Glu Thr Leu Val Gly Ala Tyr Pro Gly Arg Ala
       1330                1335                1340

Leu Ser Phe Ile Cys Lys Lys Lys Asp Leu Asn Ser Pro Gln Val Leu
1345                1350                1355                1360

Gly Tyr Pro Ser Lys Pro Ile Gly Leu Phe Ile Lys Arg Ser Ile Ile
               1365                1370                1375

Phe Arg Ser Asp Ser Asn Gly Glu Asp Leu Glu Gly Tyr Ala Gly Ala
               1380                1385                1390

Gly Leu Tyr Asp Ser Val Pro Met Asp Glu Glu Glu Lys Val Val Ile
        1395                1400                1405

Asp Tyr Ser Ser Asp Pro Leu Ile Thr Asp Gly Asn Phe Arg Gln Thr
       1410                1415                1420

Ile Leu Ser Asn Ile Ala Arg Ala Gly His Ala Ile Glu Glu Leu Tyr
1425                1430                1435                1440

Gly Ser Pro Gln Asp Ile Glu Gly Val Val Arg Asp Gly Lys Ile Tyr
               1445                1450                1455

Val Val Gln Thr Arg Pro Gln Met
           1460


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<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Partial sequence

<400> 3
Asp Lys Ala Ala Glu Thr
  1                 5


<210> 4
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Partial sequence

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Ile Ala Asp Met Glu
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1   '   '   5

<210> 5
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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Val Trp Met Arg Phe Met
  1   5

<210> 6
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<212> PRT
<213> Artificial Sequence

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<210> 7
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<220>
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 1   5

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 1   5

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 1   5

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 1   5

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Ser Ser Gly Asp Asp
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Ser Phe Ile Cys Lys Lys
  1   5